

Verbs of Creation

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and Computational Representations*

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Outline of the talk

- ▶ Subclasses of verbs of creation.

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- ▶ Event Structure and Argument Structure.

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- ▶ Event Structure: Incrementality, Result State.
- ▶ Argument Structure: Explicit vs. Implicit arguments.
- ▶ Modelization issues.
- ▶ Concluding observations and further research.

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- ▶ "They rented a flat in Rome and *built a house* in Greece."
- ▶ "A few years ago he *wrote a book* on mathematics."

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- ▶ Those denoting the coming into being of an entity that **does not surface** as an argument to the verb:
 - ▶ *translate a book, paint the landscape, photograph a sculpture.*

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- ▶ However, this is a restrictive view that fails to capture a number of interesting generalizations about the way creation events are encoded in language.
- ▶ For instance, both the *build*-verbs and the *translate*-verbs may exhibit **result nominalizations** which are able to refer to the created entity (e.g. *building*, *translation*).
- ▶ I will assume that the presence of a corresponding result nominalization is a **good diagnostics** for creation verbs (→ but this needs refining).

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- ▶ "Agent performance": *perform a sonata*, *prove a theorem*.
- ▶ "Experiencer performance": *listen to a symphony*.

- ▶ Concrete Representation Created: “Here something is created, but not literally the thing named by the object NP. Rather, a representation of that object is created, and the object itself does not undergo any change” (Dowty 1979: 69-70).

- ▶ The notion of *Representation-Source Theme* is introduced in Dowty (1991: 569 ss.). A Representation-Source Theme is a Theme that refers to an object which constitutes the source of the representation that is created, as the *landscape* in *paint a landscape*.

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- ▶ *performance* verbs: *compose* (symphony), *draw* (picture), *dance* (waltz), *write* (book).

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- ▶ *transcribe* verbs: *copy, photograph, record, tape, transcribe, type.*

- ▶ "A number of verbs listed in the various subclasses of verbs of creation and transformation are also found listed as members of other verb classes. Typically, these are verbs that have **other uses** describing activities that **might result in the creation or assembly of an entity**; usually the other uses of these verbs are more basic. [...] In their use as verbs of creation these verbs take effected objects as well as Dowty's 1991 *representation source*: *paint a picture* vs. *paint a view*." (Levin 1993, 172).

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3. **Redescription predicates:** transformation of the entity denoted by the object, but at the same creation of a new entity (Cat. *copiar* 'copy', *analitzar* 'analyse', *traduir* 'translate').

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 - ▶ Resultative verbs of modification: causes a salient modification on the existing object/entity; the modification acquires referential autonomy (*argentare* 'silver', *correggere* 'amend', *decorare* 'decorate', *modificare* 'modify', *riparare* 'repair').

Non-prototypical creation verbs:

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5. **Verbs of appearance:** *apparire* 'appear', *comparire* 'appear', *rivelarsi* 'reveal oneself' etc.

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- ▶ [[[x ACT <MANNER>] CAUSE [BECOME [y <STATE>]]]

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- ▶ *Incremental Themes* are those participants that measure out the temporal extent of the event (cf. *eat an apple* vs. *push a chart*) (Tenny 1994).
- ▶ With creation verbs, the temporal extent of the event is measured out by the **existence of the object**.

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- ▶ "A scale is an ordered set of values for a particular attribute (of an event participant)".
- ▶ "A scalar change is one which involves an ordered set of changes in a particular direction of the values of a single attribute and so can be characterized as movement in a particular direction along the scale" (Rappaport Hovav 2008).

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- ▶ **Property scales** associated with change of state verbs such as *lengthen, shorten, dim, open, close, widen* etc.
- ▶ **Path scales** associated with verbs of directed motion, such as *ascend, descend*.
- ▶ **Extent scales** associated with incremental theme verbs such as *read, eat* and *build*.

What scale for creation verbs?

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- ▶ It is the gradable property *spatial extent* of the incremental theme, and not the incremental theme itself, that instantiates the homomorphism between (portions of) the event and (portions of) the object.

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- ▶ Following Rappaport Hovav 2008, many ITVs do not themselves lexicalize a scale, but rather the scale is **introduced compositionally** by the objects of these verbs (Kennedy and Levin 2008).
- ▶ "It appears that ITVs do not encode a measure of change function and are instead *Activities*" (Kennedy 2009).

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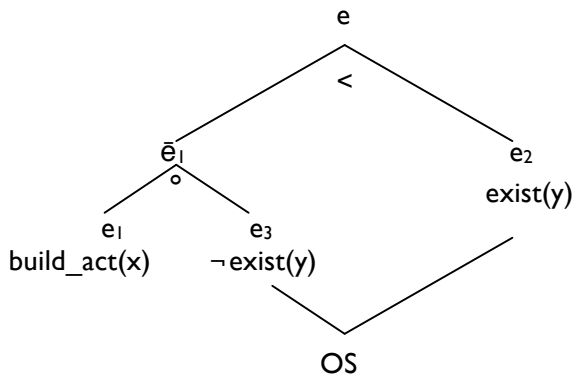
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 - ▶ Result verbs generally rule this out (RH&L 1998, RH&L 2009). According to L&RH 2005: 232, result verbs consistently lack or resist object deletion.
 - ▶ How can you **drop an object** which is **not there yet**?

- ▶ We attempt a formal modeling of the Event Structure of creation verbs taking as a starting point the enriched view of Event Structure proposed in Pustejovsky (2000), where it is assumed that creation predicates introduce the mode of opposition (Opposition Structure, OS) that the object undergoes through the event, namely between **the object not existing** and **the object existing**.

Enriched ES for "build"

(adapted from Pustejovsky 2000)



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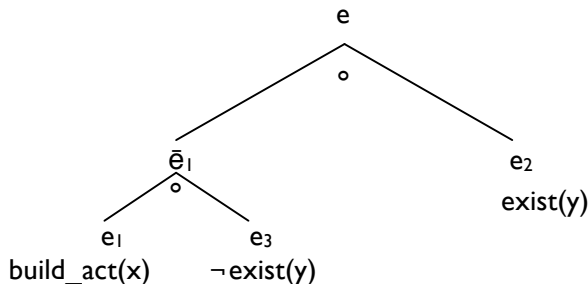
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- ▶ Event Co-identification (L&RH 1999) is the relationship of temporal dependency that holds between two subevents of a complex event structure when they **unfold at the same rate** with respect to a change in property of a participant.
- ▶ The property that triggers event co-identification with creation verbs is the property of the effected object to go through gradual changes in its *physical extent* during the event (L&RH 1999:213).

Enriched ES (with Event Co-identification)



- ▶ In Jezek & Melloni 2009, e_2 is a convenient label for the sequence of states (of existence) on which the object is mapped.

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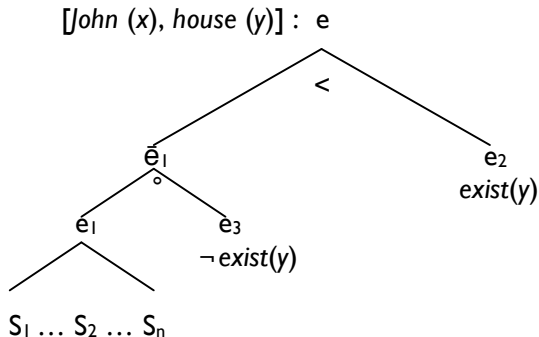
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- ▶ There is a **change in value** over some property of y **in each state** making up e_1 .

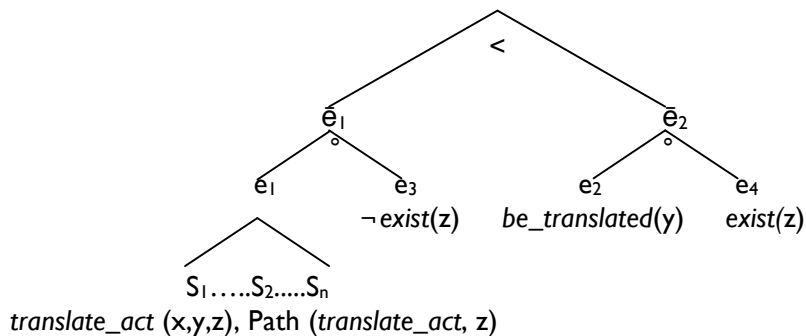
"John built a house" (with abstract Path)



$built_act(x,y), Path(built_act,y)$

"John translated the book" (with abstract Path)

$[John(x), book(y), translation(z)] : e$



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- ▶ The created object of covert creation verbs is formally encoded as a semantic participant (*hidden argument*).
- ▶ Expressions with covert creation verbs introduce a complex result state at the level of ES.

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- ▶ The details of the aspectual/semantic composition have to be worked out formally.

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